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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method for determining the number of cylinders and valves to operate in an internal combustion engine with electrically actuated valves, the method comprising:

determining an operating condition of said internal combustion engine;

selecting a number of cylinders in which to carry out combustion, based on said operating condition;

determining a number of electrically actuated valves to operate in said selected cylinders;

and

operating said number of electrically actuated valves in said selected cylinders during a cycle of said internal combustion engine.

2. (original) The method of Claim 1 wherein said operating condition is an engine temperature.

3. (original) The method of Claim 1 wherein said operating condition of said internal combustion engine is a time since start of said internal combustion engine.

4. (original) The method of Claim 1 wherein said operating condition of said internal combustion engine is a number of fueled cylinder events of said internal combustion engine.

5-6. (cancelled)

7. (original) The method of Claim 1 wherein said operating condition is a speed of said internal combustion engine.

8. (original) The method of Claim 1 wherein said operating condition is a predicted speed of said internal combustion engine.

9. (previously presented) The method of Claim 1 wherein determination of said number of electrically actuated valves is based on said selected number of cylinders.

10. (previously presented) The method of Claim 1 wherein said operating condition is a temperature of said electrically actuated valve.

11. (original) The method of Claim 1 wherein said operating condition is an engine oil temperature.

12-13. (cancelled)

14. (previously presented) A method for determining the number of cylinders and valves to operate in an internal combustion engine with electrically actuated valves, the method comprising:

determining an operating condition of said internal combustion engine;

selecting a number of cylinders in which to carry out combustion, based on said operating condition;

determining a number of electrically actuated valves to operate in said selected cylinders;

selecting a first electrically actuated valve pattern based on said determined number of electrically actuated valves;

selecting a second electrically actuated valve pattern based on said determined number of electrically actuated valves; and

alternately operating said first electrically actuated valve pattern in said selected cylinders during a cycle of said selected cylinders and operating said second electrically actuated valve pattern during different cycles of said selected cylinders.

15. (original) The method of Claim 14 wherein said different cycles are every other cycle of said cylinders.

16. (original) A control method for selecting and controlling cylinders and valves in an internal combustion engine, the method comprising:

a first mode of operation to select and deactivate a first number of cylinders, and to carry out combustion in the remaining cylinders with a first number of active valves; and

a second mode of operation to select and deactivate a second number of cylinders, and to carry out combustion in the remaining cylinders with a second number of active valves.

17. (original) The method of Claim 16 wherein said first number of cylinders are zero.

18. (original) The method of Claim 16 wherein said first number of active valves and said second number of active valves form different valve patterns.

19. (original) The method of Claim 16 wherein said first number of active valves and said second number of active valves form the same valve pattern.

20. (previously presented) A method for determining the number of cylinders to operate in an internal combustion engine with electrically actuated valves, the method comprising:

determining an operating condition of said internal combustion engine;

selecting a number of cylinders to operate based on said operating condition;

determining a number of electrically actuated valves to operate in a first and a second group of cylinders located within said number of selected cylinders; and

operating said number of electrically actuated valves in said first and second group of cylinders during a cycle of said internal combustion engine based on said determination.

21. (original) The method of Claim 20 wherein said operating condition is an engine temperature.

22. (original) The method of Claim 20 wherein said operating condition of said internal combustion engine is a time since start of said internal combustion engine.

23. (cancelled)

24. (original) The method of Claim 20 wherein said operating condition is a speed of said internal combustion engine.

25. (previously presented) The method of Claim 20 wherein determination of said number of electrically actuated valves is based on said selected number of cylinders.

26-28. (cancelled)

29. (previously presented) A method for determining the number of cylinders to operate in an internal combustion engine with electrically actuated valves, the method comprising:

determining an operating condition of at least one of said electrically actuated valves;

determining an operating condition of said internal combustion engine;

selecting a number of cylinders to operate based on said electrically actuated valve operating condition and said engine operating condition;

determining a number of electrically actuated valves to operate in said selected cylinder based on said number of cylinders; and

operating said number of electrically actuated valves in said selected cylinder during a cycle of said internal combustion engine based on said evaluation.

30. (original) The method of Claim 29 wherein said operating condition of said internal combustion engine is an engine temperature.

31. (original) The method of Claim 29 wherein said operating condition of said internal combustion engine is a time since start of said internal combustion engine.

32. (cancelled)

33. (original) The method of Claim 29 wherein said operating condition of said internal combustion engine is a speed of said internal combustion engine.

34. (previously presented) The method of Claim 29 wherein said operating condition of said electrically actuated valve is a temperature of said electrically actuated valve.

35. (previously presented) The method of Claim 29 wherein said operating condition of said electrically actuated valve is an impedance of said electrically actuated valve.

36-50. (cancelled)

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51. (previously presented) A computer readable storage medium having stored data representing instructions executable by a computer to control an internal combustion engine of a vehicle, said storage medium comprising:

instructions for determining an operating condition of said internal combustion engine;

instructions for selecting a number of cylinders in which to carry out combustion, based on said operating condition;

determining a number of electrically actuated valves to operate in said selected cylinders;

and

instructions for operating said number of electrically actuated valves in said selected cylinders during a cycle of said internal combustion engine.

52. (previously presented) A method for operating an internal combustion engine with electrically actuated valves, the method comprising:

operating the engine in a first mode with a first number of cylinders deactivated, and a first number of valves operating to carry out combustion in active cylinders; and

operating the engine in a second mode with a second number of cylinders deactivated, and a second number of valves operating to carry out combustion in active cylinders, where said first number of cylinders deactivated is different from said second number of cylinders deactivated, and said first number of valves operating is different from said second number of valves operating.

53. (previously presented) A method for operating an internal combustion engine with electrically actuated valves, the method comprising:

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operating the engine in a first mode with a first number of valves operating to carry out combustion in active cylinders; and

operating the engine in a second mode with a second number of cylinders deactivated, and a second number of valves operating to carry out combustion in active cylinders, where said first number of valves operating is different from said second number of valves operating.

54. (original) The method of claim 53 where during said first mode, the engine operated with a second number of cylinders deactivated different from said first number of cylinders deactivated.

55. (previously presented) A method for operating an internal combustion engine with electrically actuated valves, the method comprising:

operating the engine in a first mode with a first number of cylinders deactivated, and a first configuration of valves operating to carry out combustion in active cylinders; and

operating the engine in a second mode with a second number of cylinders deactivated, and a second configuration of valves operating to carry out combustion in active cylinders, and said first configuration of valves operating is different from said second configuration of valves operating.

56. (previously presented) The method of claim 55 where said first number of cylinders deactivated is the same as said second number of cylinders deactivated.

57. (previously presented) The method of claim 55 where said first number of cylinders deactivated is different from said second number of cylinders deactivated.

58. (previously presented) A method for operating an internal combustion engine with electrically actuated valves, the method comprising varying a number of deactivated cylinders and varying a number of active valves in active cylinders to regulate engine output during engine operation.

59. (original) The method of claim 58 further comprising varying a number of strokes of a cylinder cycle to further regulate engine output during engine operation.